

# Handbook for the Preparation of Graduate Dissertations and Theses\*

Authorized by the  
**University of Toledo**  
**Graduate Council**


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\*The  Graduate Faculty expresses our sincere appreciation to the staff members of the College of Graduate Studies. Their knowledge and efforts made this Handbook possible. More importantly, we are truly grateful for the countless hours the staff members routinely devote towards helping our students succeed in their graduate studies.

# Table of Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	This Handbook . . . . .	1
1.2	Master’s Projects, Seminar Papers, etc. . . . .	1
1.3	Further Instructions . . . . .	2
<b>2</b>	<b>General Formatting</b>	<b>2</b>
2.1	Text Size and Text Font . . . . .	3
2.2	Spacing and Margins . . . . .	3
2.3	Page Numbering . . . . .	4
2.4	General Rules . . . . .	5
2.5	No College-Specific Pages . . . . .	6
2.6	Charts, Figures, Graphs, Tables, Photographs, and Maps, etc. . . . .	7
2.7	L <sup>A</sup> T <sub>E</sub> X Users . . . . .	7
2.8	Formatting Exceptions . . . . .	8
2.8.1	Exceptions for Established Discipline-Specific Style Guides . . . . .	8
2.8.2	Exceptions for Applicable Manuscripts . . . . .	8
<b>3</b>	<b>Organization of Document</b>	<b>9</b>
3.1	Title Page . . . . .	9
3.2	Copyright/Blank Page . . . . .	11
3.3	Abstract Page . . . . .	12
3.4	Dedication Page . . . . .	13
3.5	Acknowledgments . . . . .	13
3.6	Table of Contents . . . . .	13
3.7	List of Tables . . . . .	13
3.8	List of Figures . . . . .	14
3.9	List of Abbreviations . . . . .	15
3.10	List of Symbols . . . . .	15
3.11	Preface . . . . .	16
3.12	Document Text . . . . .	17
3.13	References . . . . .	18
3.14	Appendices . . . . .	18
3.15	Index . . . . .	19
<b>4</b>	<b>Title Page Signatures</b>	<b>19</b>
4.1	Required Signatures . . . . .	19
4.2	Other Permitted Signatures . . . . .	19
4.3	Signature Lines . . . . .	20
4.4	Consistent Presentation of Signatures . . . . .	20
4.5	No Administrative Signatures . . . . .	20
<b>5</b>	<b>Copyright Issues</b>	<b>21</b>
5.1	Copyrighting Your Document . . . . .	21
5.2	Using Copyrighted Material . . . . .	22

<b>6</b>	<b>Final Issues</b>	<b>22</b>
6.1	Paper Specifications . . . . .	22
6.2	Personal Copies . . . . .	22
6.3	Final Words of Advice . . . . .	22
<b>7</b>	<b>Submitting your Document</b>	<b>23</b>
7.1	Submission Issues . . . . .	23
7.2	Submission Deadlines and Requirements . . . . .	23
7.3	Documents to Submit . . . . .	24
7.4	Electronic Submission . . . . .	24
<b>8</b>	<b>Dissertation Publishing Requirement</b>	<b>25</b>
<b>9</b>	<b>Amending this Handbook</b>	<b>25</b>
<b>10</b>	<b>Reference Material for this Handbook</b>	<b>25</b>
	<b>Appendices</b>	<b>27</b>
<b>A</b>	<b>Sample Pages of Handbook Formatting</b>	<b>27</b>
	<b>Index</b>	<b>45</b>

# 1 Introduction

## 1.1 This Handbook

**Questions:** Contact the College of Graduate Studies if you have questions on any material in this Handbook. College of Graduate Studies offices are located in room 3240 University Hall on the Main Campus (419.530.4723, grdsch@utnet.utoledo.edu) and on the first floor of the Mulford Library Building, Room 117 on the Health Science Campus (419.383.4112).

**Terminology:** Throughout this handbook are references to the *Graduate Council* and the *College of Graduate Studies*. The Graduate Council is the faculty governance body that determines all policies and procedures concerning graduate education (such as those in this *Handbook*). In contrast, the College of Graduate Studies implements those policies and procedures.

**Standards:** Your dissertation or thesis represents a significant contribution to the knowledge of your particular discipline and it contributes to the intellectual legacy of this university. Accordingly, it is important to ensure that its presentation meets certain standards and requirements in order that it will enjoy the widest possible dissemination and readership. This *Handbook* specifies the style and format requirements necessary for your document to be acceptable to the Graduate Council. A student preparing a dissertation or thesis must adhere to all style and formatting instructions and directives specified in this handbook.

**Style Manuals:** Style manuals applicable to your discipline (e.g., APA, Chicago, MLA) may be available in Carlson Library and/or the Bookstore. Students are encouraged to follow such discipline-specific guidelines if, and only if, such established discipline-specific guidelines have been formally adopted by your department or college. In such cases: a) the formatting of page and section headings as well as the enumeration style used for table and figure numbers may follow discipline-specific guidelines and b) the format of all other aspects of your document must follow the instructions specified in this *Handbook*. If a conflict exists between such manuals and this *Handbook* you are to follow the instructions in this *Handbook*. As described below, you may appeal any such conflict.

**Sample Pages:** To help you visualize formatting requirements specified here, the appendix to this *Handbook* provides sample pages for every preliminary page and for every other major section in your document. Students following the APA style should note that a corresponding series of sample pages conforming to APA guidelines are available at the College of Graduate Studies' website.

**Appeals:** A student interested in deviating from an instruction, rule, or policy in this *Handbook* must submit a written appeal not less than 35 business days prior to the last day of classes for the term the degree will be awarded. Appeals are to be delivered to the Dean of the College of Graduate Studies, who will forward them to the Graduate Council Executive Committee (*GCEC*) for consideration. In turn, within 10 business days of the *GCEC* receiving the appeal, the *GCEC* will notify the student and the Graduate Dean of its decision on that appeal. This provides ample time for students to satisfy submission deadlines and requirements specified in section 7.2 (p. 23). No such deviations will be permitted without the *GCEC*'s written authorization.

## 1.2 Master's Projects, Seminar Papers, etc.

A Master's Project is typically a capstone experience where students produce a review and critique of the literature in their discipline, report on an approved topic of interest, complete an original

research study, re-examine an existing hypothesis or empirical study, or other department or program sanctioned culminating experience. Master's Projects are typically submitted in lieu of a Master's Research Thesis. A Master's Project that is not a report on the results of an original work of research should not be submitted to the College of Graduate Studies, and only needs to be submitted to the student's department and/or college.

A Master's Project that is a report on the results of an original work of research represents a contribution to the research legacy of the university and should be submitted to the College of Graduate Studies and to the University of Toledo Archives. It is the responsibility of the student's project advisor to determine the level of the scholarship of the project and to justify the need for submission to the College of Graduate Studies and to the University of Toledo Archives.

Each department/college must establish a benchmark by which a Master's Project within their unit is judged to provide a significant contribution to its respective literature. If a project satisfies internal degree requirements but does not reach the above mentioned benchmark, that project is sufficient to satisfy graduation requirements but should not be submitted to the College of Graduate Studies, nor to the University of Toledo Archives. In contrast, if the opinion of the supervising faculty member is that a Master's Project provides a significant contribution to the literature, that project should be submitted to the College of Graduate Studies and, hence, to the University of Toledo Archives as a part of the intellectual legacy of this university.

All Master's Projects submitted to the College of Graduate Studies must comply with the standards for formatting and style established by this *Handbook*.

### 1.3 Further Instructions

In an effort to provide greater access to your work, you are encouraged to participate in the electronic submission program available through the OhioLINK Electronic Thesis and Dissertations (ETD) Center. This *Handbook* will assist you in the submission process whether you elect to submit your completed document electronically or through printed copies. See section 7.4 (p. 24) for more information on electronic submissions.

When composing your document, be certain that you fully understand the instructions and directives in this *Handbook*. Sample pages are included in Appendix A (p. 27). Check to make sure that the word processing software you intend to use can handle the margin, page-numbering, and other requirements mandated in this *Handbook*; checking the software's capabilities before you begin writing can save a great deal of time at the end of the process. Finally, for students preparing a dissertation, please review the information in the Proquest/UMI "Publishing Your Doctoral Dissertation" booklet available on the College of Graduate Studies' Web-site. This booklet also contains required forms that you must complete and submit with your dissertation. Also, please check the College of Graduate Studies Web-site to see a listing of forms and be sure that you have submitted all forms required for your program and degree requirements. If you have any questions, please contact your advisor or the College of Graduate Studies Office.

## 2 General Formatting

An acceptable thesis or dissertation must be

- legible,
- formatted according to the specifications in this *Handbook*,
- written in good quality English grammar,
- printed on one side only (no double-sided copies will be accepted), and
- in suitable condition for binding.

Students may choose to have their document’s textual material formatted “ragged-right” or “flush” with the right margin. This choice should be made by considering the typesetting capabilities of the software used to prepare your dissertation/thesis. For example, students using Microsoft’s *Word* should consider the “ragged-right” option. In contrast, students using L<sup>A</sup>T<sub>E</sub>X should use the “flush-right” option (the default setting in L<sup>A</sup>T<sub>E</sub>X).

Hyphenations are permitted, except when the hyphenated word is split over two pages. If your word processing software has a “widow/orphan protection feature,” it is recommended that you use this feature to avoid the first line of a paragraph being at the end of a page or the last line of a paragraph beginning a new page. It is acceptable to have a page end shorter to prevent paragraphs starting or ending in this manner.

The Graduate Council and the College of Graduate Studies reserves the right to require an author to make appropriate style and formatting changes to their document and to refuse any document that is not suitable for binding.

## 2.1 Text Size and Text Font

The text font and text size used in your dissertation or thesis are chosen for ease in reading. All dissertations/theses are required to use a 12-point text size throughout the textual material of the document’s preliminary pages, body, references, and appendices. This requirement does not apply to text within tables, figures, footnotes, or mathematical expressions.

Students are not permitted to use script-style fonts or san serif fonts in their dissertations/theses (examples of san serif fonts are Arial and Helvetica). All dissertations/theses are required to choose a single serif font as the text font that is used throughout the textual material of the document. Acceptable serif fonts are limited to:

- Book Antiqua
- Garamond
- Century Schoolbook
- Times Roman (a.k.a., “Roman” or “Times New Roman”).

Note: the Times Roman text font is recommended for all dissertations and theses.

## 2.2 Spacing and Margins

**General Spacing:** All textual materials must be double-spaced. The following exceptions to this rule may be single-spaced:

- long quotations (approximately forty words or more)
- captions to figures and tables
- the content of tables and text within figures
- footnotes

Section 3.13 (p. 18) describes the formatting of your reference section. It states that when reporting works cited in a dissertation/thesis, students must chose one of the following spacing options for their reference section:

1. Use double-spacing within each reference and between references. This option is illustrated in the appendix (p. 42): *Sample References — Example 1*.
2. Use single-spacing within an individual reference but use double-spacing between references. This option is illustrated in the appendix (p. 43): *Sample References — Example 2*.

**Margins:** All dissertations/theses must employ the following margins — to allow space for binding and trimming of the final volume. Note that holes or other perforations will not be permitted in

any of the margins. No material may appear in the margins, except a page number (see section 2.3). Every page must have the following margins:

Bottom margin: one inch (1")  
 Right margin: one inch (1")  
 Left margin: one and a half inch (1½")

The value of the top margin depends on whether the page is the first page of a “major division.” A “major division” includes the acknowledgements page, table of contents, list of tables, list of figures, list of abbreviations, list of symbols, preface, chapters, references, appendices, and index.

If the page is the first page of a major section or division, the top margin is 2 inches (2"). This is the distance from the top edge of the page to the bottom edge of the section heading. Examples of this margin requirement are provided in the appendix: see the “*Sample Preface Page*” (p. 38) and the “*Sample Chapter First Page*” (p. 39). Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specification for the top margin.

The top margin of every other page is one inch (1"). Examples of this margin requirement are located in the appendix: see the “*Sample Table Page*” on p. 41.

## 2.3 Page Numbering

**Page Number Location:** All pages must be present and numbered in the proper sequence. Do not use periods, brackets, hyphens, etc. before or after page numbers. The page number of every page is to be located  $\frac{3}{4}$ " from the bottom edge of the page and centered between the 1.5" left margin and the 1" right margin. Page numbers are to be printed in 12-point font size (the same font size required of all textual material).

**Preliminary Page Numbers:** Page numbers that are printed on “preliminary pages” are in lower-case Roman numerals (i.e., i, ii, iii, iv, ...). Section 3 provides detailed formatting issues for these preliminary pages. Appendix pages 28 through 38 provide examples of each preliminary page. The table below provides a summary of the pagination requirements for preliminary pages. Note that the far-right column of this table indicates the *Handbook* section that provides additional information for the formatting of each preliminary page.

Page	Required or Optional	Included in Pagination	Page Number Printed	Listed in Table of Contents	Described in Handbook Section
Title	required	yes	<b>no</b>	<b>no</b>	3.1 (p. 9)
Blank/Copyright	required	yes	<b>no</b>	<b>no</b>	3.2 (p. 11)
Abstract	required	yes	yes	yes	3.3 (p. 12)
Dedication	optional	yes	<b>no</b>	<b>no</b>	3.4 (p. 13)
Acknowledgments	optional	yes	yes	yes	3.5 (p. 13)
Table of Contents	required	yes	yes	yes	3.6 (p. 13)
List of Tables	conditional	yes	yes	yes	3.7 (p. 14)
List of Figures	conditional	yes	yes	yes	3.8 (p. 13)
List of Abbreviations	optional	yes	yes	yes	3.9 (p. 15)
List of Symbols	optional	yes	yes	yes	3.10 (p. 15)
Preface	optional	yes	yes	yes	3.11 (p. 16)

**Chapter, References, Appendix, & Index Page Numbers:** All pages within these divisions receive a page number and the page number is printed on the page using Arabic numerals (i.e., 1, 2, 3, ...). The first page of the first chapter must be numbered “1” with subsequent pages numbered 2, 3, 4, etc. The page number of the first page of a subsequent chapter is to follow consecutively from the last page number in the previous chapter (i.e., the page number of the first page of a subsequent chapter does not reset to “1”). The same principle is to be applied to the page number of the first page of subsequent major divisions (i.e., References, Appendices, and Index).

To summarize, the first page of the first chapter is numbered “1” with subsequent pages numbered 2, 3, 4, etc., and this pagination continues unbroken to the last page of the document (i.e., page numbers are never again “reset” to 1).

A page number must be printed in an Arabic numeral on every page starting with — and following — the first page of the first chapter. This includes pages that contain a table, figure, blueprint, photograph, etc. The only exception to this requirement are whole-page photographs: such pages need not show a page number, though a page number must be reserved in the sequence. In other words, a whole-page photograph page must be counted in the pagination, though a page number does not have to be printed on that particular page.

## 2.4 General Rules

**Abbreviations, Acronyms, and Symbols:** these must be defined in the text the first time they are used in the text. Depending on the context, this definition must appear immediately before or after the abbreviation/acronym/symbol; thereafter the abbreviation/acronym/symbol must be consistently substituted for its definition within the document’s text. The following is an example of an abbreviation/acronym appearing after its definition:

“The eclipse will occur at 9:15, Eastern Standard Time (EST).”

In contrast the following is an example of a symbol preceding its definition:

“These results depend on the value of Tobin’s  $Q$ ; where  $Q$  represents the ratio of the market value of installed capital to the replacement cost of capital.”

See section 3.9 and 3.10 for formatting information on the optional pages *List of Abbreviations* and *List of Symbols*.

**Beginning a Sentence:** No sentence, except in a footnote, should begin with a numeral, symbol or abbreviation (except titles such as Dr., Mrs., Mr.).

**Capitalization:** A good general rule for titles and/or headings is that nouns, verbs, and any word of four or more letters are capitalized.

**Colon:** When a colon is used to introduce a list, it should be preceded by an independent clause (e.g., “Our study included five elements: (1) ...”; “The ingredients were as follows: ...”, not “The ingredients were: ...”).

**Dates:** Typing style for dates that appear in the text must take the following form: Month day, and year. For example: July 10, 1994.

**Ellipses:** Within a sentence, omissions are indicated by three spaced periods. Between and at the end of sentences where omissions have been made, the final period precedes the three ellipsis points. When typed correctly, it will look like this. . . . In most cases, do not use ellipses at the beginning or end of a quote.

**Footnotes:** Footnotes to textual material must be numbered consecutively using Arabic numerals (i.e., 1, 2, 3, . . .). Throughout the text, footnotes must appear at the bottom of the page and not in a separate section. An exception to this is provided to only those students whose department/college have formally adopted an established discipline-specific style guide (APA, Chicago, MLA, etc.) which requires footnotes to appear in a separate section.

Footnotes to a table (or figure) must be typed directly beneath the table (or figure) and numbered consecutively. They are not to be numbered in sequence with footnotes throughout the text. Instead, footnotes to a table (or figure) are to be enumerated using the “alph” style (i.e., a, b, c, . . .). The first footnote of each table (or figure) is to be reset to “a”, with subsequent footnotes to that table (or figure) being “b,” “c,” . . . .

**Numbers:** Numbers should always be written out when they stand as the first word in the sentence. The numbers one (1) through nine (9) are to be written out in the text when not used with abbreviations. All higher numbers will be presented in Arabic figures. Numbers indicating time, weight, and measurement are to be expressed in Arabic figures when followed by an abbreviation (e.g., 1 mm; 1 sec; 3 gm; 10 mm<sup>3</sup>).

## 2.5 No College-Specific Pages

No “college signature pages” or other college-specific page(s) shall be permitted in any document submitted to the College of Graduate Studies or any organization publishing the document (e.g., Proquest/UMI Dissertation Publishing).

However, individual colleges are free to ask their students to include “college-specific page(s)” in internal copies of documents kept only by their college. In such cases students must make certain that the table of contents and pagination present in the internal copy kept by their college is identical to their document submitted to the Graduate College and to The University of Toledo Archives. For this to occur, students must make certain that the following conditions are satisfied:

- college-specific page(s) are located only within the “preliminary pages” of the document kept by the college as an internal document;
- college-specific page(s) do not receive a page number — even in the college’s internal copy of the document;
- college-specific page(s) are not included in the table of contents — even in the college’s internal copy of the document (i.e., the table of contents within the college’s internal copy of the document must be identical to that submitted to the College of Graduate Studies);
- college-specific page(s) shall not be included in the version of the document submitted to (a) the College of Graduate Studies (b) The University of Toledo Archives, or (c) any organization publishing the document.

## 2.6 Charts, Figures, Graphs, Tables, Photographs, and Maps, etc.

Please note the following requirements for using illustrative material in your manuscript:

- Illustrative material must be concise and accurate.
- Illustrative material must be computer generated and professional-quality.
  - Distinguishing characteristics within such illustrative material (e.g., lines on a graph or portions of a figure) should be identified by labels or symbols, with colors used only when the use of such labels or symbols is not possible or practical.
  - Shaded areas (e.g., countries on a map) will have better contrast if cross-hatching is used instead of color.
- Each illustrative material is to be enumerated according to its classification (i.e., chart 1, chart 2, ... figure 1, figure 2 ..., table 1, table 2 ..., etc.). See sections 3.7 and 3.8 for discussions of the require enumeration method by chapter.
- Each illustrative material must have a brief descriptive caption accompanying its enumeration. The appendix contains sample captions to tables (p. 41) and sample captions to figures (p. 40). Note:
  - Captions may be single-spaced.
  - A caption to a table appears above the table.
  - A caption to a graph or figure appears below the graph or figure.
- When possible, illustrative material is to be placed within the text rather than on a separate page. (See the sample table in the appendix on p. 41.)
  - When placed within the text, the illustrative material is to occur on the page it is first cited or at the top of the subsequent page.
  - If the illustrative material is too large to fit between text, it is to appear centered (vertically and horizontally) on the page subsequent to its first citation.
- Photographs must be professional-quality.
- Appropriate permission letters must be included for any copyrighted materials in the document that exceed “fair use.” See section 5.2 (p. 22) for a discussion of using copyrighted material in your document.
- Illustrative material that is larger than the standard  $8\frac{1}{2}'' \times 11''$  page size may be used in your document. These items may be included in a pocket at the end of the document. See section 6.1 (p. 22) for additional details.

## 2.7 $\LaTeX$ Users

**Note:** Information in this section is not relevant for students using *Microsoft Word* to prepare their dissertation or thesis.

Students using the  $\LaTeX$  document preparation system should note that a  $\LaTeX$  document class file (*Uthesis*) has been created to facilitate uniform dissertations, theses, and projects at the

University of Toledo.<sup>1</sup> Students enter specific information into a template file (e.g., document title, degree, their name, advisor’s name, etc.) and  $\mathcal{U}_{thesis}$  transforms their draft document into a form that satisfies all style and formatting requirements set forth in this *Handbook*.  $\LaTeX$  users are *strongly* encouraged to use this style file.

$\mathcal{U}_{thesis}$  automatically generates all preliminary pages and other sections according to the exact formatting requirements of this *Handbook*. Page numbering and margin specifications of the required (and optional) preliminary pages as well as those of the document’s body are also automatically generated to conform to the requirements in this *Handbook*. To significantly improve the appearance of your dissertation/thesis,  $\mathcal{U}_{thesis}$  automatically adjusts inter-line and inter-character spacing of all text — based on the specifications established in this *Handbook*. In addition,  $\mathcal{U}_{thesis}$  also provides a remarkably simple process for formatting other aspects of your dissertation/thesis (e.g., signature lines, captions to tables/figures, etc.). Proper use of the  $\mathcal{U}_{thesis}$  file will guarantee the College of Graduate Studies’ acceptance of the style and formatting of your document.

The  $\mathcal{U}_{thesis}$  file, template, tutorials, and other supporting documents can be obtained by contacting the College of Graduate Studies (419.530.4723, grdsch@utnet.utoledo.edu) or the Department of Economics (419.530.2572, regina.stambaugh@utoledo.edu).

## 2.8 Formatting Exceptions

### 2.8.1 Exceptions for Established Discipline-Specific Style Guides

Section 3 (p. 9) describes the organization of the document and it describes specific formatting requirements for each section of the document. For example, when describing the location of a page heading for preliminary pages, chapters, references, appendices, etc., sections 3.1–3.15 provide explicit instructions for the location of such headings. An exception to such requirements is provided to students whose department/college have adopted an established discipline-specific style guide (APA, Chicago, MLA, etc.) which mandate a different format for such headings (e.g., centered across the page instead of flush-left). At the instruction of their major advisor, students in such departments may follow the formatting of headings dictated by such established style guides. A similar exception is provided for the enumeration style used for table and figure numbers.

### 2.8.2 Exceptions for Applicable Manuscripts

When applicable, some programs permit students to include manuscripts as chapters. This is under the condition that such manuscripts are self-contained modular units, each written as a single paper, published or submitted (or intended to be submitted) to a refereed scientific journal. Each manuscript (presumptive journal article) must be prepared exactly in the style required for the intended journal, including formats for illustrations (charts, graphs, tables, etc.) and the mode of citation of the references. Typing, margins, and page numbers, however, must meet the requirements for the entire dissertation. Each chapter/journal article shall include the following parts: Abstract; Introduction; Material; Method; Results; Discussion; and complete References.

It is the responsibility of the student’s Advisory Committee to determine the number of chapters and authorship, as well as the quality and probability that these chapters will be published (if they have not already been submitted for publication). If the manuscript has been accepted for publication or has been published, you must include on the title page of the (chapter) manuscript, the name of the journal and note “in press” or the complete citation if already published.

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<sup>1</sup>Dr. Michael Dowd’s “ $\mathcal{U}_{thesis}$ —A  $\LaTeX$  Document Class for Dissertations and Theses at The University of Toledo.” Department of Economics, University of Toledo; Toledo, Ohio, 43606-3390.

When including manuscripts, the Materials, Methods, Results, and Conclusions sections are omitted. A Discussion/Summary chapter should provide a thread of continuity with all parts of the dissertation and must clearly state the new addition to knowledge.

### 3 Organization of Document

Sections 3.1–3.15 (pp. 9–19) describe which preliminary pages and major sections are required to be included in every dissertation and thesis and which are optional pages/sections. Sections 3.1–3.15 also describe specific style and formatting requirements for each preliminary page and major section. Note: every dissertation and thesis must present these preliminary pages and major sections according to the sequence listed below. There are no exceptions to this rule: any dissertation or thesis that deviates from the sequence listed below will be rejected by the Graduate College.

- Title page
- Copyright/Blank Page
- Abstract Page
- Dedication Page (optional)
- Acknowledgments (optional)
- Table of Contents
- List of Tables (conditional)
- List of Figures (conditional)
- List of Abbreviations (optional)
- List of Symbols (optional)
- Preface (optional)
- Document Text
- References
- Appendices (if necessary)
- Index (optional)

**Some preliminary page numbers are not printed on the page:** Every preliminary page is counted in the pagination. When page numbers are printed on a preliminary page they are printed in lower-case Roman numerals (i.e., i, ii, iii, . . . ). However, the page number of *some* preliminary pages is not printed on the page (see the table in section 2.3, p. 4). For example, the title page is counted in the pagination as page “i” but that page number is not printed on the title page.

#### 3.1 Title Page

The title page is counted in the pagination as page one. However, the page number is not printed on that page. The title page is not listed in the table of contents. The title page text is to be double-spaced (though items #2 and #4 below allow for possible exceptions to this rule).

Figure 1 (p. 10) illustrates the information that must appear on the title page, and the order that information must appear on the page. That figure also demonstrates the general formatting of information and the principle of equal spacing between each major section of the page. A detailed description of each informational component is enumerated below Figure 1 (p. 10).

Please note three additional issues. First, no other information may be included on the title page (e.g., there shall be no reference to individual colleges or their administrators). Second, the formatting of the information on the title page is to follow that illustrated in the *Sample Title Page* (see appendix, p. 28). Third, signatures appearing on the title page must follow the specifications of section 4 (p. 19).

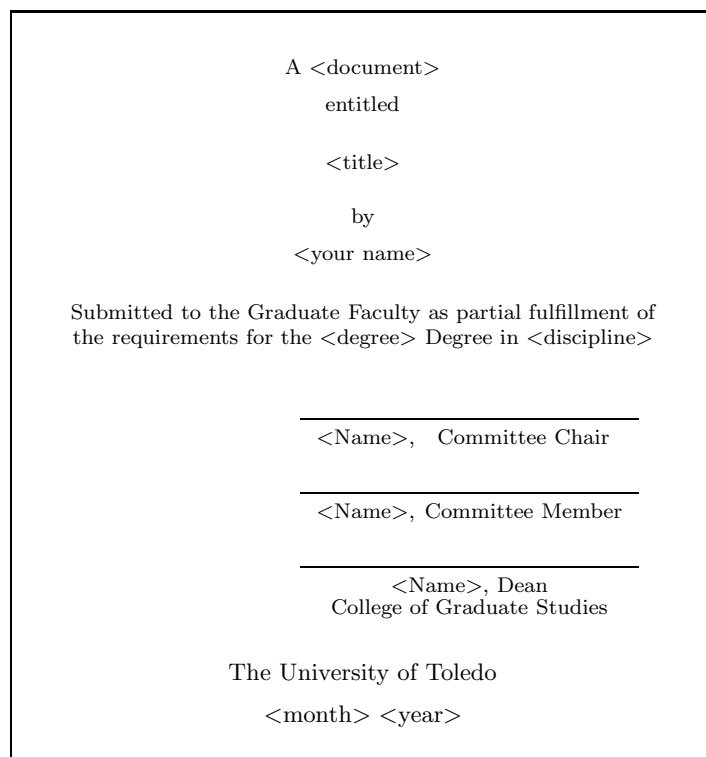


Figure 1: General Formatting of a Title Page (not drawn to scale). See the information below this figure and the *Sample Title Page* (appendix, p. 28) for specific details on how to format each component on this page.

The following provides formatting information for each component in Figure 1.

1. This document is either a “Dissertation,” a “Thesis” or a “Project”. The “A <document> entitled” statement must be double-spaced and centered at the top of the page (i.e., located 1” below the top edge of the page).
2. <title>: The title is to be centered and double-spaced. However, single-spacing the title is permitted if space is needed to accommodate additional signature lines (see #5 below). The *Sample Title Page* in the appendix (p. 28) provides an example of how to format the document title.  

You should not use all capital letters for your title. However, in some cases, it is appropriate to use all capital letters for some acronyms, proper nouns and other terms. Whenever possible, use full proper names. Avoid abbreviations for specialized vocabulary, and use word substitutes for formulas, symbols, superscripts, subscripts, Greek characters, etc. You must include all appropriate accents and diacritical marks.
3. <your name>: This, of course, is where you state your name. Consider carefully the style of reporting your name. Examples are a) “Elmer Fudd,” b) “Elmer J. Fudd,” or “Elmer Jehosephat Fudd.” The “by <your name>” statement must be centered and double-spaced.
4. (a) <degree>: This is the exact description of you degree (e.g., Doctor of Philosophy, Master of Arts, Master of Science, etc.).

- (b) <discipline>: This is the discipline awarding the degree (e.g., Economics, Education, Engineering, etc.). In many cases <discipline> is just the name of your department, though it's not so obvious in other cases. For example, a student receiving a masters degree in Civil Engineering would have the statement "Master of Science Degree in Civil Engineering"; however, a student whose Ph.D. work was in Civil Engineering would have "Doctor of Philosophy Degree in Engineering" (i.e., not "Civil Engineering"). Consult your major advisor and/or the College of Graduate Studies if you have questions on this issue.

The statement beginning with "Submitted to the Graduate Faculty ..." and ending with "... <discipline>" is centered and double-spaced. However, single-spacing this statement is permitted if space is needed to accommodate additional signature lines (see #5 below).

5. **Signatures:** See section 4 (p. 19) for specific information on required/optional signatures appearing on the title page, signature lines, consistent presentation of signatures, etc. Such signature lines are to be double-spaced and presented flush with the right margin. See the *Sample Title Page* in the appendix (p. 28) for an example of formatting signature lines.
6. <month> <year>: The conferral information consists of the statement "*The University of Toledo*" followed by the month and year your degree is conferred. This information must be double-spaced and centered at the bottom of the page.

Do not use commas, brackets, etc. before or after the conferral date (i.e., the month and year). Do not confuse the conferral date with the date the document was defended, approved, or when committee members signed the title page. The conferral date is the month and year the university confers your degree. Consult the Graduate College for the specific month and year your degree will be conferred. See the *Sample Title Page* in the appendix (p. 28) for an example of formatting conferral information.

### 3.2 Copyright/Blank Page

The second page of every dissertation/thesis must be either a copyright notice page or a blank page. A copyright notice page may not appear elsewhere in the dissertation/thesis. If a student chooses to not include a copyright page, then the second page of their document must be a blank page. Regardless of whether the second page is a copyright notice page or a blank page, this page is counted in the pagination but the page number is not printed on the page. Further, this page is not listed in the table of contents.

If a student chooses to include a copyright notice page as the second page of their document, then the content of that page shall be limited to the following text:

Copyright <year>, <full legal name>

This document is copyrighted material. Under copyright law, no parts of this document may be reproduced without the expressed permission of the author.

The student must replace "<year>" in the above example with the appropriate year of copyright and replace "<full legal name>" with their full legal name. The above material is to be printed single-spaced at the center of the page just above the bottom margin — with one blank line separating the "Copyright <year>, <full legal name>" line from the subsequent text. From section 2.1 (p. 3), this material must be printed in the same font as is used for all other textual material (i.e., no other font is permitted for this page). The location of this material is illustrated in the *Sample*

*Copyright Page* in the appendix (p. 29). Note that all copies of a copyrighted document must include this copyright notification page.

Section 5.1 (p. 21) provides additional information on the process of copyrighting your document (including a discussion of legal protection for you).

### 3.3 Abstract Page

**General Information:** Every dissertation and thesis is required to provide an abstract of the scholarly work contained in the document. The Abstract page must be the third page of the document (following the Title page and the Copyright/Blank page). This page is counted in the pagination and its page number is printed on the page (in lower case Roman numerals). Because the title page and the copyright/blank pages are counted in the pagination, the page number for the Abstract page must be “iii”. The heading “Abstract” appears in the table of contents (as illustrated in the *Sample Table of Contents* in the appendix, p. 33).

The information contained in the Abstract page is comprised of two parts, described below. No other information may be included on the Abstract page. Students are encouraged to compare the information below with the *Sample Abstract Page* provided in the appendix (p. 30). An exception to the formatting presented in that *Sample Abstract Page* is provided only to students whose department/college have adopted an established discipline-specific style guide (see section 2.8.1, p. 8).

**Part One:** The information described below is single-spaced and centered at the top of the page — with equal spacing between each component (e.g., one blank line). Note that the information provided on this page (i.e., document title, your name, degree, discipline, and conferral date) must correspond exactly to the information provided on the title page.

An Abstract of  
<document title>  
by  
<your name>  
As partial fulfillment of the requirements for the  
<degree> Degree in <discipline>  
The University of Toledo  
<month> <year>

From section 2.1 (p. 3), the above material must be printed in the same font as is used for all other textual material (i.e., bold, italics, underline, etc., fonts are not permitted for this page).

**Part Two:** This contains the abstract text, which must be double-spaced. The text must contain a concise statement of the problem, procedure or methods utilized, results obtained and a brief conclusion. There is no word limit on the text of your abstract, however, as ProQuest/UMI will continue to publish print indices and these require word limits of 350 words for dissertations (see the definition of “a word” below). Hence, a dissertation’s abstract will be truncated by ProQuest/UMI if it exceeds this word limit. Please see the additional guidelines for preparing your abstract available in the Proquest/UMI “Publishing Your Dissertation” booklet available on the College of Graduate Studies website.

A word is defined as any characters that has a space before and after, i.e., the words “a,” “of,” etc., count as one word each. Hyphenated words such as “post-translational” or “1,1-bis(p-chlorophenyl)-2,2,2-trichloroethane” count as one word each.

### 3.4 Dedication Page

**General Information:** This is an optional page. If you choose to include a Dedication page, note that its length shall not exceed one page. A Dedication page is counted in the pagination, but the page number is not printed on the page. This page is not listed in the table of contents (as illustrated by the *Sample Table of Contents* in the appendix, p. 33).

**Format:** There is no page heading and the start of the dedication is located 3 inches from the top-edge of the page — as illustrated by the *Sample Dedication Page* in the appendix, p. 31. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.5 Acknowledgments

**General Information:** This is an optional page. If this page is included in the document then this page shall include the heading “Acknowledgments”. An Acknowledgments page shall not exceed one page in length. This page is counted in the pagination and its page number is printed on the page (in lower case Roman numerals). The heading for this page is listed in the table of contents — as illustrated in the *Sample Table of Contents* on p. 33.

**Format:** The page heading (“Acknowledgments”) is located 2 inches from the top edge of the page and flush with the left margin. The text of the acknowledgments shall begin 1 inch below that heading — as illustrated in the appendix’s *Sample Acknowledgments Page* (p. 32). Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.6 Table of Contents

**General Information:** All dissertations/theses are required to include a detailed table of contents (i.e., parts, chapters, sections, subsections, references, appendices, etc.). The first page of the table of contents shall include either the heading “Contents” or “Table of Contents.” The table of contents pages are counted in the pagination and their page numbers are printed on the page (in lower case Roman numerals). The heading for this page is listed in the table of contents (as illustrated in the appendix’s *Sample Table of Contents* on p. 33).

**Format:** The heading for this page (i.e., “Contents” or “Table of Contents”) is located 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin will begin the list of entries to the table of contents. If the Table of Contents extends beyond a single page, the top-margin of subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.7 List of Tables

**General Information:** The first page of this section must include the heading “List of Tables” (see the *Sample List of Tables* in the appendix, p. 34). The list of tables pages are counted in the pagination and their page numbers are printed on the page (in lower case Roman numerals). The heading for this section is included in the table of contents — as illustrated in the appendix’s *Sample Table of Contents* (p. 33).

Note: A List of Tables section is a required “preliminary page” if three or more tables are present in the document. If the document contains only one or two tables then the inclusion of this section is left to the discretion of the student.

**Format:** As illustrated in the *Sample List of Tables* (p. 34), the heading of the first page of this section (i.e., “List of Tables”) is located 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin begins the enumerated list of entries to the List of Tables. If this list extends beyond a single page, the top-margin of subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

**Table Captions:** As is illustrated in the appendix’s *Sample Table Page* (p. 41), captions to tables are located above the table (in contrast to the placement of figure captions).

**Table Numbers:** The *Sample List of Tables* (p. 34) and the *Sample Table Page* (p. 41) illustrate the default method of enumerating tables. This method is characterized by (1) the table’s number being led by its chapter/appendix location and (2) table numeration is reset to “1” for each chapter/appendix. As examples, the numbers of the first three tables appearing within chapter 1 would be “1-1”, “1-2”, and “1-3”; those appearing in chapter 4 would be “4-1”, “4-2”, and “4-3”; and those appearing in third appendix (Appendix C) would be “C-1”, “C-2”, and “C-3”. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.8 List of Figures

**General Information:** The first page of this section must include the heading “List of Figures” (see the appendix’s *Sample List of Figures*, p. 35). The list of figures pages are counted in the pagination and their page numbers are printed on the page (in lower case Roman numerals). The heading for this section is included in the table of contents — as illustrated in the appendix’s *Sample Table of Contents* (p. 33).

Note: A List of Figures section is a required “preliminary page” if three or more figures are present in the document. If the document contains only one or two figures then the inclusion of this section is left to the discretion of the student.

**Format:** As illustrated in the *Sample List of Figures* (p. 35), the heading of the first page of this section (i.e., “List of Figures”) is located 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin begins the enumerated list of entries to the List of Figures. If this list extends beyond a single page, the top-margin of subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

**Figure Captions:** As is illustrated in the appendix’s *Sample Figure Page* (p. 40), captions to figures are located below the figure (in contrast to the placement of table captions).

**Figure Numbers:** The *Sample List of Figures* (p. 35) and the *Sample Figure Page* (p. 40) illustrate the default method of enumerating figures. This method is characterized by (1) the figure’s number being led by its chapter/appendix location and (2) figure numeration is reset to “1” for each chapter/appendix. As examples, the numbers of the first three figures appearing within chapter 1 would be “1-1”, “1-2”, and “1-3”; those appearing in chapter 4 would be “4-1”, “4-2”, and “4-3”; and those appearing in third appendix (Appendix C) would be “C-1”, “C-2”, and “C-3”. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.9 List of Abbreviations

**General Information:** This is an optional section. Not every dissertation or thesis needs a *List of Abbreviations*. However, such a list can be a very helpful resource to readers if a significant number of abbreviations are used throughout the document. Students are encouraged to consult with their major advisor to determine whether a List of Abbreviations should be included in the preliminary pages.

**Completeness:** If this list is included in the preliminary pages then, for completeness, every abbreviation appearing in the document must be included in this list. (Further, this list may not contain abbreviations that do not appear elsewhere in the document.) Regardless of whether a List of Abbreviations is included in the preliminary pages, a definition of each abbreviation must appear in the document’s text directly before or after the first use of the abbreviation.

**Format:** The heading for this section is “List of Abbreviations” (which is also included in the table of contents, as illustrated is the appendix’s *Sample Table of Contents* on p. 33). This heading is located on the first page of this section, 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin begins the single-spaced list of abbreviations. Pages in this section are counted in the pagination and their page numbers are printed on the page (in lower case Roman numerals). If this list extends beyond a single page, the top-margin of list entries on subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

As is illustrated in the appendix’s *Sample List of Abbreviations* (p. 36), this list shall not be enumerated and it must be presented in alphabetic order of *abbreviations* (not their definition). Each list entry has two components, presented in a two-column format. For example,

AJA .....	American Journal of Archaeology; the Journal of the Archaeological Institute of America
BB .....	B.B. King
HHS .....	Department of Health and Human Services

The list entry’s left column is the abbreviation, presented flush with the left margin. Its right column is the definition of that abbreviation. If a definition extends beyond one line, the definition is to wrap the line with succeeding words left-aligned with the start of the definition (such as that for the definition of “AJA” in the above example).

### 3.10 List of Symbols

**General Information:** This is an optional section. Not every dissertation or thesis needs a *List of Symbols*. However, as with the list of abbreviations, a *List of Symbols* can be a very helpful

resource to readers if a significant number of symbols are used throughout the document. Students are encouraged to consult with their major advisor to determine whether such a list should be included in the preliminary pages.

**Completeness:** If this list is included in the preliminary pages then, for completeness, every symbol appearing in the document must be included in this list. (Further, this list may not contain symbols that do not appear elsewhere in the document.) Regardless of whether this list is included in the preliminary pages, a definition of each symbol must appear in the document’s text directly before or after the first use of the symbol.

**Format:** The heading for this section is “List of Symbols” (which is also included in the table of contents, as illustrated is the appendix’s *Sample Table of Contents* on p. 33). This heading is located on the first page of this section, 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin begins the single-spaced list of symbols. Pages in this section are counted in the pagination and their page numbers are printed on the page (in lower case Roman numerals). If this list extends beyond a single page, the top-margin of list entries on subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

As is illustrated in the appendix’s *Sample List of Symbols* (p. 37), this list shall not be enumerated. Each list entry has two components, presented in a two-column format. For example,

- ⊗ ..... magnetic field gradient pulse separation
- ‡ ..... the ratio of the M2 money supply to the M2 monetary base
  
- $\alpha$  ..... angle of rotation around internal rotation axis
- $\beta$  ..... correlation coefficient
  
- Q ..... Tobin’s q; the ratio of the market value of installed capital to the replacement cost of capital
- $Y^P$  ..... Potential Gross Domestic Product, adjusted for inflation

The list entry’s left column is the symbol, presented flush with the left margin. Its right column is the definition of that symbol. If a definition extends beyond one line, the definition is to wrap the line with succeeding words left-aligned with the start of the definition (such as that for the definition of “Q” in the above example).

The entries to the List of Symbols environment are to be arranged in subgroups of symbols according to discipline conventions (e.g., non-associated symbols first, Greek characters second, English alphabet characters third, etc.). Note: a single blank line must separate each such subgroup of symbols (as in the example above). When possible the list within each subgroup must be in alphabetic order of *symbols* (not their descriptions). For the Greek alphabetic, this would be:  $A$ ,  $\alpha$ ,  $B$ ,  $\beta$ ,  $\Gamma$ ,  $\gamma$ , ...  $\Omega$ ,  $\omega$ . In the English alphabet language we’d have:  $A$ ,  $a$ ,  $B$ ,  $b$ ,  $C$ ,  $c$ , ...  $Z$ ,  $z$ .

### 3.11 Preface

**General Information:** This is an optional section. If a student chooses to include a *Preface*, then the first page of this section must include the heading “Preface” — as illustrated in the appendix’s *Sample Preface Section* (p. 38). The Preface pages are counted in the pagination and their page numbers are printed on the page (in lower case Roman numerals). The heading for this

page is listed in the table of contents (as illustrated in the appendix's *Sample Table of Contents* on p. 33).

**Format:** The heading on the first page of this section (i.e., "Preface") is located 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin will begin the text of the preface. An example of this is provided in the appendix's *Sample Preface Section* (p. 38). If the Preface extends beyond a single page, the top-margin of subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.12 Document Text

**Divisions of Text:** The first page of the first chapter begins the document's text. Any page preceding that page is a preliminary page and must be formatted accordingly (see sections 2.3 and 3.1–3.11). The document's text is to be divided into explicitly defined divisions (as needed), with the main divisions being designated as chapters (not as 'parts,' 'books,' etc.). As needed, a chapter may have explicitly defined subdivisions, designated as sections, subsections, subsubsections, etc. Headings for chapters, sections, subsections, etc. must be included in the table of contents.

Your document shall not have a "free-standing" main division or component that does not have an explicit chapter number designation. For example, you shall not have a free-standing "Introduction" section. Instead, you must decide whether that material is best included in a Preface section or as the contents of Chapter 1.

**Chapter Page Format:** Every chapter title must be numbered using Arabic numerals: "Chapter 1," "Chapter 2," "Chapter 3," etc. Chapter titles must be located 2 inches from the top edge of the page and flush with the left margin. The chapter heading is located 1 inch below that title and flush with the left margin. Following 1 inch below the chapter heading and flush with the left margin is the start of the chapter text. An example of this formatting is provided by the appendix's *Sample Chapter First Page* (p. 39). The top-margin of subsequent chapter pages is 1 inch from the top edge of the page. An example of this formatting of a subsequent chapter page is found on the appendix's *Sample Table Page* (p. 41). Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

**Section Number and Heading:** When establishing a section, a section's number is followed directly by its heading (i.e., both appear on the same line – and in that order). This information is presented flush with the left margin. No words or symbols may appear prior to a section's number when establishing a section. The same formatting applies to subsections, subsubsections, etc. Examples of such formatting is provided in the appendix's *Sample Chapter First Page* (p. 39).

Sections of chapter 1 are numbered 1.1, 1.2, 1.3, . . . while those of subsequent chapters are to be numbered "2.1", "2.2", . . . "3.1", "3.2", . . . That is, section enumeration resets to "1" for each new chapter. Similarly, subsection numbers are reset to "1" for each new section. For example, the subsections of the fourth section of chapter 5 are to be numbered 5.4.1, 5.4.2, 5.4.3 . . . For the same reason, subsubsection numbers are reset to "1" for each new subsection.

Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.13 References

**General Information:** There is only one acceptable heading for the section that lists works cited in your dissertation/thesis: “References”. This heading is not enumerated (unlike chapters, appendices, sections, etc.) Reference pages are counted in the pagination. This section is included in the table of contents but it is not enumerated (see the appendix’s *Sample Table of Contents* on p. 33). Pages within the Reference section have their page numbers printed on the page in Arabic numerals. The page number of the first page of the Reference section follows consecutively from that of last page of the previous chapter (i.e., its page number is not reset to “1”). As described in the **Spacing Options** section below, the appendix’s *Sample References Pages* (pp. 42–43) provide examples of the first page of a References section.

**Presentation of References:** The presentation of references in the above mentioned “*Sample*” pages are for illustrative purposes only. How information is presented in your references and the order such information is presented is to be dictated by the convention used in your discipline. Consult your major advisor on the proper method of reporting works cited in your dissertation/thesis.

**Spacing Options:** Students have two spacing options for reporting works cited in their dissertation/thesis:

1. Use double-spacing within each reference and between references. The appendix’s *Sample References — Example 1* (p. 42) illustrates this option.
2. Use single-spacing within an individual reference but use double-spacing between references. The appendix’s *Sample References — Example 2* (p. 43) illustrates this option.

**Format:** As mentioned above, the first page of this section must include the heading “References”. This heading is located 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin is the start of your list of references. If the reference list extends beyond a single page, the top-margin of subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.14 Appendices

**General Information:** This is an optional section. If appendices are necessary, then each appendix must be enumerated by the *Alph* numbering style (i.e., A, B, C, ...) instead of the *Arabic* style used for chapters (i.e., 1, 2, 3, ...). The first page of each appendix must include the title “Appendix  $\mathcal{X}$ ” (where  $\mathcal{X} = A, B, C, \dots$ ) followed by its heading. This is illustrated in the appendix’s *Sample Appendix First Page* (p. 44). The enumerated heading to each appendix is listed in the table of contents (as shown in the appendix’s *Sample Table of Contents* on p. 33). Every appendix page has its page number printed on the page in an Arabic numeral. The page number of the first page of the first appendix will follow consecutively from that of last page of the Reference section (i.e., the page number of the first page of that appendix is not reset to “1”). The page number of the first page of a subsequent appendix follows consecutively from that of last page of the previous appendix.

**Format:** The appendix title “Appendix  $\mathcal{X}$ ” (where  $\mathcal{X} = A, B, C, \dots$ ) is to be located 2 inches from the top edge of the page and flush with the left margin. The appendix heading is located 1 inch below that title and flush with the left margin. Following 1 inch below the appendix heading and

flush with the left margin is the start of the appendix text. The appendix's *Sample Appendix First Page* (p. 44) provides an example of this formatting. If an appendix extends beyond a single page, the top-margin of subsequent pages is 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

### 3.15 Index

**General Information:** This is an optional page. Not every dissertation or thesis needs an Index, and some major advisors actively discourage its inclusion in the document due to the work involved in generating a comprehensive index. Students are strongly encouraged to consult with their major advisor to determine whether an index should be included in their dissertation/thesis.

**Format:** The first page of this section must include the heading "Index" — located 2 inches from the top edge of the page and flush with the left margin. Following 1 inch below that heading and flush with the left margin begins the index. If the index extends beyond a single page, the top-margin of entries on subsequent pages is located 1 inch from the top edge of the page. Consult section 2.8.1 (p. 8) if your department/college has adopted an established discipline-specific style guide that conflicts with the above specifications.

Pages in this section are counted in the pagination and their page numbers are printed on the page in Arabic numerals. The page number of the first page of the index will follow consecutively from that of last page of the previous section (i.e., the page number of the first page of the index is not reset to "1"). The heading for this section is listed in the table of contents (as illustrated in the appendix's *Sample Table of Contents* on p. 33).

## 4 Title Page Signatures

### 4.1 Required Signatures

Signatures may only appear on the title page of a document. The Graduate Council requires the following signatures to appear on the title page of every dissertation and thesis:

1. the student's major advisor (committee chair), and
2. Dean of the College of Graduate Studies.

The signature of the student's major advisor certifies the intellectual advancement achieved by the student's dissertation or thesis. The signature of the Dean of the College of Graduate Studies certifies final approval of the dissertation/thesis with respect to other standards and requirements established by the *Graduate Faculty*. See the *Sample Title Page* in the appendix, p. 28.

### 4.2 Other Permitted Signatures

As an option, students may include for signature the names of other committee members serving on the dissertation/thesis committee (i.e., those other than the major advisor). Such signatures serve to confirm the major advisor's certification of the intellectual advancement achieved by the student's dissertation or thesis. If the signature of at least one other committee member appears on the title page, then a signature from every committee member must also appear on the title page in order for the dissertation/thesis to be accepted by the Graduate College.

### 4.3 Signature Lines

Every thesis and dissertation must provide a signature line for each signature that appears on the title page. The name of the committee chair must be printed below her/his signature line. As described above, if the student includes for signature the name of at least one committee member other than the chair, the student must include for signature the names of all committee members. In this case,

- the name of each committee member must be printed below their respective signature line; and
- the names printed must be accompanied by a clear differentiation between the student's committee chair (i.e., major advisor) and other committee members — in a manner consistent with that illustrated in the appendix's *Sample Title Page* (p. 28).

Following the signature line(s) for the committee chair and, optionally, for all other committee members, a signature line must be provided for the Dean of the College of Graduate Studies. The following information must be printed below that signature line, centered across the signature line, and presented in a manner consistent with that illustrated in the appendix's *Sample Title Page* (p. 28):

<academic title and name of Graduate College Dean>, <administrative title>  
College of Graduate Studies

The dean's *administrative title* may be "Dean," "Interim Dean," or "Acting Dean." Consult the College of Graduate Studies for the exact name and administrative title of the current dean. For example,

Dr. Patricia R. Komuniecki, Dean  
College of Graduate Studies

### 4.4 Consistent Presentation of Signatures

For names printed below a signature line, there are two options for reporting the title/degree of those that sign the title page. Option A is to have every named signature line report their respective title prior to their name (e.g., "Dr. Roy Hinkley"). Option B is to have every named signature line report their degree after their name (e.g., "Roy Hinkley, Ph.D." or "Roy Hinkley, M.D."). To maintain uniformity, students may choose either Option A or B for every signature line but they may not use Option A for some signature lines and Option B for others. Consult your major advisor to determine whether Option A or B follows the convention used in your discipline.

### 4.5 No Administrative Signatures

While the signature of the Dean of the College of Graduate Studies must appear on the title page of every dissertation and thesis, in no case shall the name or title of any other administrator appear for signature on any dissertation or thesis submitted to the Graduate College, or any publishing organization, unless that administrator served as the student's major advisor or as a committee member. In such a case, only the administrator's academic degree (i.e., Ph.D. or M.D.) or academic title (i.e., "Dr.") may be printed on the title page. In no case shall a administrative title be included as part of that signature line.

## 5 Copyright Issues

### 5.1 Copyrighting Your Document

[ **Note:** As this is a preliminary version of the *Handbook*, information in this section is subject to change. Please consult the College of Graduate Studies for updated information. ]

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Because copyright law is complicated, students should consult ProQuest's document "Copyright Information" along with the manual "Copyright Law and Graduate Research," which is excerpted in this section.<sup>2</sup> More detailed information regarding copyrights can be obtained from other sources.

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<sup>2</sup>The location of these two documents are, respectively,

- [http://www.utoledo.edu/graduate/files/UMI\\_CopyrightGuide08-09.pdf](http://www.utoledo.edu/graduate/files/UMI_CopyrightGuide08-09.pdf)
- <http://www.proquest.com/en-US/products/dissertations/copyright/>

infringement, this should be done as soon as possible after the submission of your document to the College of Graduate Studies.

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### 6.1 Paper Specifications

The paper requirement for both the original and all copies submitted to the College of Graduate Studies is white, at least twenty-four (24) pound, acid-free,  $8\frac{1}{2}'' \times 11''$  paper. There are many brands of paper that meet these specifications. The ☐ Print Shop, copy shops, and most office supply stores can supply such paper if told the specifications above. To insure the highest print contrast and quality, the document must be printed on a laser printer.

If oversize illustrations are absolutely necessary, see section 2.6 (p. 7) for an option in the event that the illustrative material cannot be reduced to fit the margins of the paper.

### 6.2 Personal Copies

Arrangements for bound, personal copies of one’s dissertation, thesis, or project can be made with Rocket Copy located on the second floor of the Student Union (419.530.4606). Copies of dissertations can also be ordered through Proquest/UMI.

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Check carefully for correct margins, page numbering, references, citations, etc. The College of Graduate Studies will return any thesis or dissertation that does not meet the requirements listed

herein; therefore, the manuscript in final form should be carefully proofread and corrected before it is submitted to the College of Graduate Studies.

## 7 Submitting your Document

### 7.1 Submission Issues

You are ultimately responsible for submitting a dissertation/thesis that fits the format described herein and is free of spelling and other errors. After your final thesis/dissertation is submitted to the College of Graduate Studies, no changes in the text or substitution of pages may be made.

Submitting your dissertation/thesis to the College of Graduate Studies is the final step towards the completion of your document. Therefore, before you submit it to the College of Graduate Studies, you must follow all procedures instituted by your department and home college. These may include particular actions you have to take prior to scheduling the defense of your dissertation/thesis, the defense, or any necessary revisions or actions you have to take after the defense. After making those revisions to your document, you must verify that your dissertation/thesis satisfy the style and formatting requirements specified in this *Handbook*.

Submit your dissertation/thesis to the College of Graduate Studies only when all academic and non-academic requirements are satisfied and all title page signatures are obtained. The College of Graduate Studies will inspect your document to verify that it satisfies all style and formatting requirements established in this *Handbook*. (It will not proofread your document for grammar or spelling mistakes.) The College of Graduate Studies will then determine whether your document is either “acceptable” or “unacceptable.” You will be notified of this determination via email, along with list of any changes or corrections that must be made to your document. Unaccepted documents will be returned to the author to make necessary corrections.

A completed document submitted to the College of Graduate Studies must include an additional title page possessing all relevant signatures (see sections 3.1.5 and 4, pp. 11 and 19). Students must also submit to the College of Graduate Studies a copy of the title page with names printed below their respective signature lines but without the actual signatures.

Students wishing to retain extra copies of their document should retain these copies and submit only the additional cover sheets [with original signature(s)] to the College of Graduate Studies for signature by its Dean. A maximum of five cover pages will be signed.

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To protect your documents while they are being processed at the College of Graduate Studies, please submit your documents in a strong, heavy manilla envelope(s) or in a similarly sturdy box(es) that allows little room for movement of your unbound documents. **Do not secure document with binder clips.**

Once the document is approved and the degree has been awarded, the College of Graduate Studies will forward two paper copies of your document to the Library for binding.

### 7.3 Documents to Submit

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2. If you submit only paper copies (i.e., you do not submit an electronic version to OhioLINK), the number of copies you must submit to the College of Graduate Studies depends on your document:

Thesis: two (2) original paper print-outs (not photocopies) of your thesis

Dissertation: two (2) original paper print-outs (not photocopies) of your dissertation plus one (1) photocopy of your dissertation

Regardless of the option you choose, document(s) submitted to the College of Graduate Studies must satisfy the deadline specified in section 7.2.

As described in section 7.2, paper documents will be sent to the Library for binding. The University Libraries keeps two bound copies of all dissertations and theses from UT graduates: one can be checked out while the other is permanently stored in The University of Toledo Archives.

### 7.4 Electronic Submission

[ **Note: As this is a preliminary version of the *Handbook*, information in this section is subject to change. Please consult the College of Graduate Studies for updated information.** ]

An ETD (electronic thesis or dissertation) is an electronic document that explains the research of a graduate student. In general, it is the same product as a paper thesis or dissertation, simply in electronic form. Additional information on ETDs is available through OhioLINK ETD Center (<http://www.ohiolink.edu/etd/>). The steps for ETD Submission are as follows:

- Complete your document and secure its approval from your committee and the Graduate College.
- Convert your document to a PDF file, making certain that fonts are “embedded” in the conversion process. If you need assistance converting your document to a PDF, please contact Wade Lee in the library at 419.530.4490.

- Submit your PDF file to the OhioLINK ETD Center.

Additional information and a submission tutorial are available on the library website. It is strongly recommended that you review the information available on this site before you begin writing your document.

## 8 Dissertation Publishing Requirement

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Microfilming is a requirement for those writing a Doctoral Dissertation in the College of Graduate Studies. The College of Graduate Studies has made arrangements with Proquest/UMI for the micro reproduction of dissertations. Proquest makes a master microfilm and retains it in its vaults. It announces the publication in Dissertation Abstracts International and provides positive microfilms and paper bound xerographic copies to all who wish to buy them. There is no additional charge to you for the microfilming service.

The University of Toledo, as part of its obligation to disseminate research results, requires all Ph.D. dissertations be published. In order to satisfy this requirement, one copy of the dissertation will be sent to Proquest/UMI Dissertation Publishing and will be returned to the student by the College of Graduate Studies. ProQuest/UMI will preserve, archive, and publish the dissertation. For students submitting electronically, the OhioLINK ETD Center will submit your dissertation to UMI. The cost for publishing is the obligation of the author. The current charge for publishing can be obtained by contacting the College of Graduate Studies.

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For assistance and for a sample permission letter, please refer to the ProQuest/UMI “Publishing Your Doctoral Dissertation” booklet.

## 9 Amending this Handbook

The *Graduate Council Executive Committee* is authorized to approve minor editorial changes to this *Handbook*. However, only the *Graduate Council* may approve a substantive change to the style and formatting requirements established by this *Handbook*. Under no circumstance may College of Graduate Studies personnel alter the content of this *Handbook* without prior approval of either the *Graduate Council Executive Committee* or the *Graduate Council*.

## 10 Reference Material for this Handbook

ProQuest/UMI’s ‘Copyright Information’

(<http://www.utoledo.edu/graduate/files/UMLCopyrightGuide08-09.pdf>)

ProQuest/UMI’s “Copyright Law and Graduate Research”

(<http://www.proquest.com/en-US/products/dissertations/copyright/>)

ProQuest/UMI’s “Publishing Your Doctoral Dissertation with UMI Dissertation Publishing”.

Virginia Tech's ETD Web Site (<http://etd.vt.edu/>)

University of Cincinnati's ETD Web Site (<http://www.etd.uc.edu/ETDCenter.aspx>)

University of Toledo Libraries' Web Site (<http://www.cl.utoledo.edu/serv/etd.html>)

**Other Useful Web-Sites:**

University of Toledo, College of Graduate Studies (<http://gradschool.utoledo.edu/>)

OhioLINK ETD Center (<http://www.ohiolink.edu/etd/>)

## Appendix

### A Sample Pages of Handbook Formatting

This appendix provides sample pages illustrating the formatting of all major pages included in a dissertation/thesis. The table below provides the page number of these sample pages formatted according to the specifications included in this *Handbook*.

<b>Sample Page</b>	<b>Page Number</b>
Title Page .....	28
Copyright Page .....	29
Abstract Page .....	30
Dedication Page .....	31
Acknowledgments Page .....	32
Table of Contents .....	33
List of Tables .....	34
List of Figures .....	35
List of Abbreviations .....	36
List of Symbols .....	37
References (Example 1) .....	42
References (Example 2) .....	43
Appendix (First Page) .....	44

As discussed in section 2.8 (p. 8), certain exceptions to the *Handbook* formatting are permitted if a department/college has formally adopted an established discipline-specific style guide (e.g., APA or MLA) which mandate a different format for headings or the numeration of tables, figures, etc. To help students using APA formatting, a corresponding series of sample pages for that style guide is provided on the College of Graduate Studies' website (see section 1.1, p. 1).

# [ Sample Title Page ]

A Dissertation  
entitled

A Game-Theoretic Approach to a General Equilibrium  
Model with Asymmetric Price Information and No Goods

by  
Elmer J. Fudd

Submitted to the Graduate Faculty as partial fulfillment of the  
requirements for the Doctor of Philosophy Degree in Economics

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Dr. Roy Hinkley, Committee Chair

---

Dr. Ginger Grant, Committee Member

---

Dr. Jonas Grumby, Committee Member

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Dr. Eunice W. Howell, Committee Member

---

Dr. Thurston Howell, Committee Member

---

Dr. Mary Ann Summers, Committee Member

---

Dr. Noah Lott, Dean  
College of Graduate Studies

The University of Toledo

May 2010

# [ Sample Copyright Notice Page ]

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1.5"

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# [ Sample Abstract Page ]

An Abstract of

A Game-Theoretic Approach to a General Equilibrium  
Model with Asymmetric Price Information and No Goods

by

Elmer J. Fudd

Submitted to the Graduate Faculty in partial fulfillment of the  
requirements for the Doctor of Philosophy Degree in Economics

The University of Toledo

May 2010

Out-of-sample forecasting experiments are used as an alternative to looking at F-statistics when examining whether money, interest rates or the commercial paper/T-bill spread provide information content for subsequent movements in output, real and nominal personal income, the CPI and the PPI. Here a variable provides information if it improves the forecast of the explained variable. Employing this procedure I find that the paper-bill spread but not monetary aggregates provide information content for industrial production or real personal income when using data over the 1980-97 period. In contrast, I find that monetary aggregates provide information content for the CPI and nominal personal income but not the PPI.

# [ Sample Dedication Page ]

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For Margaret, Jack, and Joseph. Before you entered my life, I used to wonder what I might accomplish; now, I want only to be the best Papa I can be.

1"

# [ Sample Acknowledgments Page ]

## Acknowledgments

This dissertation would not have been possible without the love, support, and encouragement I received from my parents, brothers and sisters. Only now am I beginning to realize how much my parents sacrificed so that I could attend college. I do not have words to adequately describe my deep gratitude for all they have provided me, though I hope to show them in the years to come.

I have benefited greatly from the mentoring of James Holmes and comments received from David Black and Kristen Keith. I studied economics because of what I saw in James Holmes — a tremendous desire to learn and understand, and a wonderful fascination with Macroeconomics. I am truly indebted to him for fostering the same pursuit and fascination in me and, of course, for his assistance and advice during my years as his student.

# [ Sample Table of Contents ]

## Contents

Abstract	iii
Acknowledgments	v
Contents	vi
List of Tables	vii
List of Figures	viii
List of Abbreviations	ix
List of Symbols	x
Preface	xi
<b>1 The Heading to Chapter 1</b>	<b>1</b>
1.1 A Section Heading .....	1
1.1.1 A Subsection Heading .....	1
<b>2 The Heading to Chapter 2</b>	<b>35</b>
2.1 A Section Heading .....	39
References	57
Appendices	
A The Heading to Appendix A	64
B The Heading to Appendix B	71
Index	82

# [ Sample List of Tables ]

## List of Tables

1-1	An example of five alternative models used in forecasting experiments. Industrial production (IP) serves as the output variable, CPI as the measure of price, and M2 as the monetary aggregate. The measure of interest alternates between the interest rate spread (SP) and the federal funds rate (FF). . . . .	33
1-2	This is an example of a <i>List of Tables</i> entry corresponding to a table not included in these sample pages. The table number indicates that this would be the second table of chapter 1. . . . .	33
2-1	This is an example of a <i>List of Tables</i> entry corresponding to a table not included in these sample pages. The table number indicates that this would be the first table of chapter 2. . . . .	47

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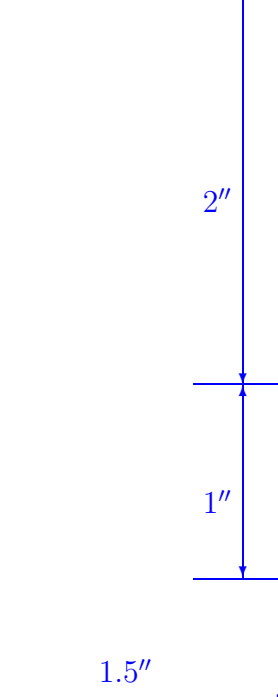
# [ Sample List of Figures ]

## List of Figures

1-1	When government expenditures are financed by an inflationary tax, the non-rational expectations equilibrium is Pareto superior to the rational expectations equilibrium. ....	2
1-2	This is an example of a <i>List of Figures</i> entry corresponding to a figure not included in these sample pages. The figure number indicates that this would be the second figure of chapter 1. ....	27
2-1	This is an example of a <i>List of Figures</i> entry corresponding to a figure not included in these sample pages. The figure number indicates that this would be the first figure of chapter 2. ....	40

# [ Sample List of Abbreviations ]

## List of Abbreviations



AAGG . . . .	American Association of Solving the World's Problems by way of Government Grants
ABMC . . .	American Battle Monuments Commission
ADA . . . .	Americans with Disabilities Act of 1990
ADD . . . .	Administration on Developmental Disabilities
AFAA . . . .	Air Force Audit Agency
AFDB . . . .	African Development Bank
AFDC . . . .	Aid to Families with Dependent Children
AFSC . . . .	Armed Forces Staff College
AJOKE . . .	A game theoretic solution to an asymmetric general equilibrium model that has no prices and no goods
ANA . . . .	Administration for Native Americans
AOA . . . .	Administration on Aging
APHIS . . .	Animal and Plant Health Inspection Service
ARS . . . .	Agricultural Research Service
ATF . . . .	Bureau of Alcohol, Tobacco, and Firearms
ATSDR . . .	Agency for Toxic Substances and Disease Registry
BEA . . . .	Bureau of Economic Analysis
BIC . . . .	Business Information Center (SBA)
BJS . . . .	Bureau of Justice Statistics
BLM . . . .	Bureau of Land Management
BLS . . . .	Bureau of Labor Statistics
BTS . . . .	Bureau of Transportation Statistics
BVA . . . .	Board of Veterans' Appeals
CBO . . . .	Congressional Budget Office
CCC . . . .	Commodity Credit Corporation
CDBG . . . .	Community Development Block Grant
CDC . . . .	Centers for Disease Control and Prevention
CEA . . . .	Council of Economic Advisers
CEQ . . . .	Council on Environmental Quality
CFA . . . .	Commission of Fine Arts
CRAP . . . .	Council for Regulating American Productivity through Government Oversight

# [ Sample List of Symbols ]

## List of Symbols

( $\cdot$ ) ... Parentheses in the numerical listings contain measured or estimated uncertainties. For example, the value 1.407(83) should be interpreted as  $1.407 \pm 0.083$ . Thus the value in parentheses refers to the last significant digits given.

$\alpha$  ..... Angle of rotation around internal rotation axis.

$\beta$  ..... correlation coefficient

$\delta$  ..... Magnetic field gradient pulse separation

$\Theta_i$  ..... the *ith* degree to which the flayrod has gone out of skew on tredel

$\lambda$  ..... the shadow price of income

$\mu$  ..... the ratio of the monetary aggregate to the monetary base

$\rho$  ..... Internal rotation interaction constant  $\rho = [\sum_x (\lambda_x I_\alpha / I_x)^2]^{1/2}$

$\mathbf{A}_C$  ..... crystal surface area

Ba ..... Barium

BB ..... B.B. King

Be ..... Beryllium

Ca ..... Calcium

$\mathbf{E}_G$  ..... activation energy

F ..... Internal rotation dynamical constant (GHz)  $F = h/8\pi^2 r I_\alpha$

$I_i$  ..... Angular momentum quantum number of nuclear spin for the *ith* nucleus

J ..... Resultant total angular momentum quantum number, excluding nuclear spins

$\mathbf{k}$  ..... Boltzmann's constant

Mg ..... Magnesium

N ..... Rotational angular momentum quantum number, excluding electron and nuclear spins, in the case where electron spin is present

$\mathcal{Q}$  ..... Tobin's *q*; the ratio of the market value of installed capital to the replacement cost of capital

Ra ..... Radium

$\mathbf{S}_a$  ..... area of an active site

Sr ..... Strontium

$\mathbf{Y}$  ..... Gross Domestic Product

$\mathbf{Y}^P$  ..... Potential Gross Domestic Product

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Preface

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Macroeconomics analyzes the economy as a whole; where output, prices, interest rates, exchange rates, and unemployment are the key variables macroeconomists want to explain. In contrast, microeconomics analyzes the behavior of individuals and firms; where prices for particular products are determined by demand and supply. As it is all but impossible to summarize all of the differences between macro- and microeconomic models, I focus only on three theoretic models that have had a substantial impact on economic modeling over the last 60 years. The three classes of models I examine are the IS-LM, overlapping generations, and growth models. The IS-LM is the traditional (static) aggregative macro model which excels in short-run stabilization issues. The overlapping generations model with production is a general equilibrium, intertemporal micro-based macro model. It incorporates both utility and profit maximization. Growth models examine the importance of technology and human capital, convergence to equilibria, and its long-run focus sharply contrasts that of the IS-LM model.

The IS-LM model is a description of the economy's demand side and whose focus is on short-run analysis of monetary and fiscal policy variables. In varying form, this model has been widely used since its introduction by Sir John Hicks in 1937. An IS-LM model is comprised of a number of postulated relationships between variables, including those describing consumption demand, investment demand, and money demand. Equations (1) – (4) provide a paradigmatic version of a rudimentary IS-LM model. Prior to analyzing these equations it is informative to recall the static nature

# Chapter 1

## The Heading to Chapter 1

Out-of-sample forecasting experiments are used as an alternative to looking at F-statistics when examining whether money, interest rates or the commercial paper/T-bill spread provide information content for subsequent movements in output, real and nominal personal income, the CPI and the PPI.

### 1.1 A Section Heading

Here a variable provides information if it improves the forecast of the explained variable. Employing this procedure I find that the paper-bill spread but not monetary aggregates provide information content for industrial production or real personal income when using data over the 1980-97 period. In contrast, I find that monetary aggregates provide information content for the CPI and nominal personal income but not the PPI.

#### 1.1.1 A Subsection Heading

Results regarding the contribution of money towards forecasts of the CPI are very robust across two samples. For the early sub-period a combination of money and

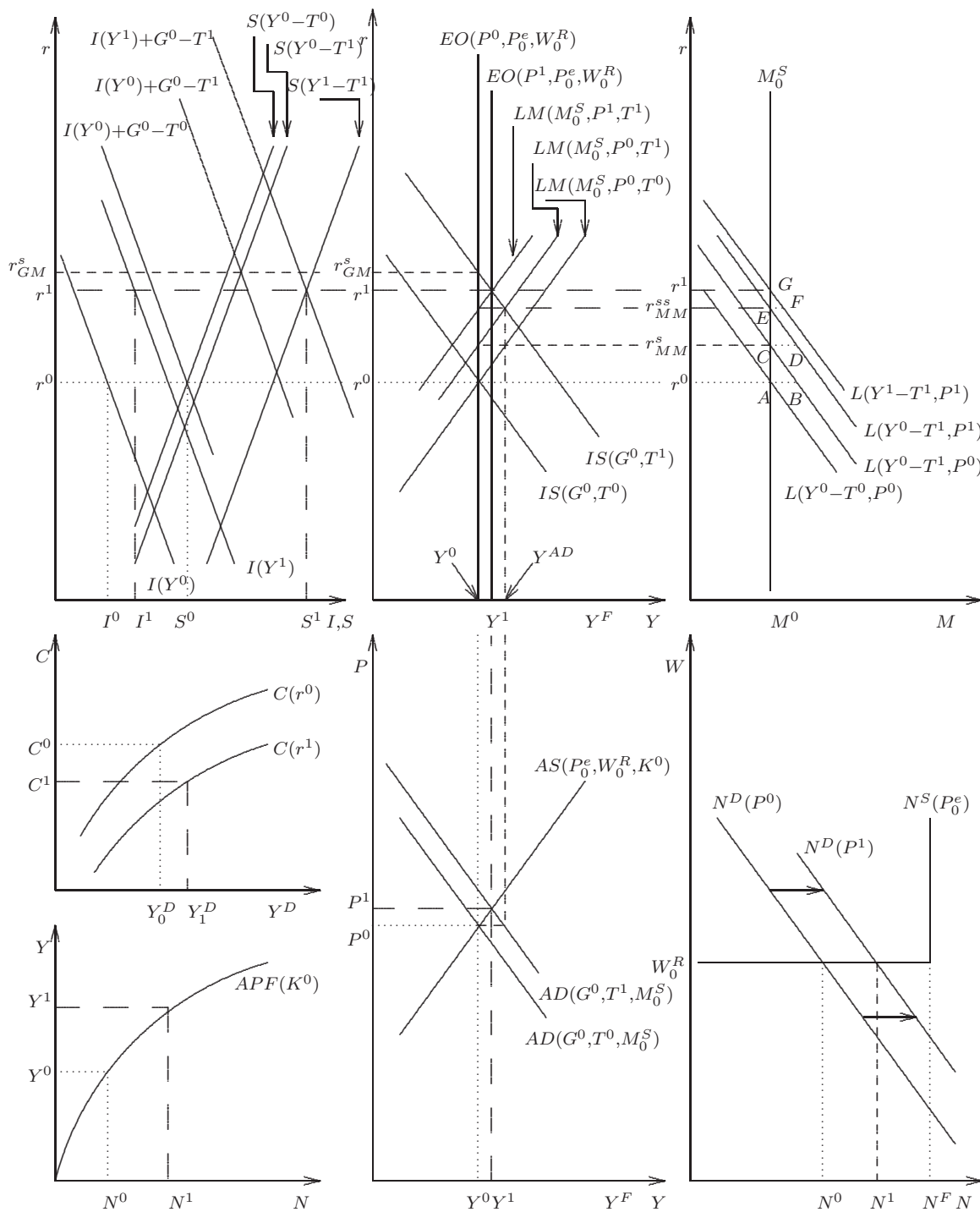


Figure 1.1: Rudimentary economic analysis of a change in taxes when the Federal Reserve is following a Money Stock Instrument. This assumes the Goods Market's sensitivity to a change in taxes is greater than that in Financial Markets.

# [ Sample Table Page ]

When forecasting industrial production and real and nominal personal income,  $X_t$  represents the measure of price included (i.e., the CPI or the PPI). When forecasting the CPI or the PPI,  $X_t$  represents the measure of output/income included (i.e., industrial production or real personal income).  $M_t$  and  $R_t$  are respectively the monetary aggregate and the interest rate measure used. As described below, in models II and V the  $\phi$ 's are zero and in model III the  $\delta$ 's are zero. For example, in the cases where industrial production serves as the output variable and M2 serves as the monetary aggregate, the five alternative models are listed in Table 1.1.

Table 1.1: An example of five alternative models used in forecasting experiments. Industrial production (IP) serves as the output variable, CPI as the measure of price, and M2 as the monetary aggregate. The measure of interest alternates between the interest rate spread (SP) and the federal funds rate (FF).

Alternative Models	Variables Included				
Model I:	IP	CPI	M2	SP	
Model II:	IP	CPI		SP	
Model III:	IP	CPI	M2		
Model IV:	IP	CPI	M2		FF
Model V:	IP	CPI			FF

Such comparisons will determine whether a variable is a good candidate as an information variable. Comparing the mean absolute percentage error (MAPE) from models I, II and III (or models III, IV and V) examines the relative contributions of money versus the interest rate spread (or money versus the federal funds rate). Moreover, comparing the MAPEs from model II and V and those from models I and IV examines the relative contribution of the federal funds rate versus the interest rate spread.

To examine whether the information content provided by a candidate variable is special to the particular variable being forecasted, we repeated the above analysis

# [ Sample References - Example 1 ]

## References

**Black, David and Michael Dowd**, “The Money Multiplier, The Money Market, and The LM Curve,” *Eastern Economic Journal*, Summer 1994, vol. 30, no. 3, 301–310.

**Blinder, Alan S. and Robert M. Solow**, “Does Fiscal Policy Matter?,” *Journal of Public Economics*, November 1973, vol. 2, no. 4, 319–337.

**Friedman, Milton**, “The Role of Monetary Policy,” *American Economic Review*, March 1968, vol. 58, no. 1, 1–17.

**Hicks, John R.**, “Mr. Keynes and the Classics: A Suggested Interpretation,” *Econometrica*, April 1937, vol. 5, no. 2, 147–159.

**Holmes, James M., Michael R. Dowd, and David C. Black**, “Ignorance May Be Optimal? Some Welfare Implications of Rational Versus Non-Rational Expectations,” *Journal of Macroeconomics*, Summer 1995, vol. 17, no. 3, 377–386.

**Keynes, John Maynard**, *The General Theory of Employment, Interest, and Money*, New York: Harcourt Brace Jovanovic, 1936.

**Poole, William**, “Optimal Choice of Monetary Policy Instrument In A Simple Stochastic Macro Model,” *Quarterly Journal of Economics*, May 1970, vol. 84, no. 2, 197–216.

# [ Sample References - Example 2 ]

## References

**Black, David and Michael Dowd**, “The Money Multiplier, The Money Market, and The LM Curve,” *Eastern Economic Journal*, Summer 1994, vol. 30, no. 3, 301–310.

**Blinder, Alan S. and Robert M. Solow**, “Does Fiscal Policy Matter?,” *Journal of Public Economics*, November 1973, vol. 2, no. 4, 319–337.

**Friedman, Milton**, “The Role of Monetary Policy,” *American Economic Review*, March 1968, vol. 58, no. 1, 1–17.

**Hicks, John R.**, “Mr. Keynes and the Classics: A Suggested Interpretation,” *Econometrica*, April 1937, vol. 5, no. 2, 147–159.

**Holmes, James M., Michael R. Dowd, and David C. Black**, “Ignorance May Be Optimal? Some Welfare Implications of Rational Versus Non-Rational Expectations,” *Journal of Macroeconomics*, Summer 1995, vol. 17, no. 3, 377–386.

**Keynes, John Maynard**, *The General Theory of Employment, Interest, and Money*, New York: Harcourt Brace Jovanovic, 1936.

**Poole, William**, “Optimal Choice of Monetary Policy Instrument In A Simple Stochastic Macro Model,” *Quarterly Journal of Economics*, May 1970, vol. 84, no. 2, 197–216.

## Appendix A

### The Heading to Appendix A

The Federal Reserve has at its disposal a limited set of instruments through which it can attempt to achieve its objectives of price stability and/or full employment output. Between the time a monetary instrument is adjusted and its ultimate effect on economic activity has occurred there are observable movements in other important economic variables such as monetary aggregates or interest rates. These variables may be used as intermediate targets if immediately subject to influence by policy and if their movements affect output or prices. If the variable does not cause output or prices, it may still be useful as an information variable if its movements consistently lead movements in the variables the Federal Reserve wishes to influence.

Out-of-sample forecasting experiments are used as an alternative to looking at F-statistics when examining whether money, interest rates or the commercial paper/T-bill spread provide information content for subsequent movements in output, real and nominal personal income, the CPI and the PPI. Here a variable provides information if it improves the forecast of the explained variable. Employing this procedure I find that the paper-bill spread but not monetary aggregates provide information content for industrial production or real personal income when using data over the 1980-97 period. In contrast, I find that monetary aggregates provide information content for

# Index

- abbreviations
  - avoid abbreviations in document title, 10
  - general rules, 5
  - List of Abbreviations, 15
- acronyms
  - avoid acronyms in document title, 10
  - general rules, 5
- amending this handbook, 25
- appealing formatting requirements, 1
- Arial text font (not permitted), 3
- beginning a sentence (general rules), 5
- Book Antiqua text font, 3
- bottom margin, 3
- capitalization
  - general rules, 5
  - no “all caps” in document title, 10
- captions
  - may be single-spaced, 3, 7
  - must appear above table, 7, 14
  - must appear below figure, 7, 14
- Century Schoolbook text font, 3
- chapter
  - as a main division, 17
  - headings, 17
  - page format, 17
- charts (also see “figure” and “table”), 7
- college (student’s home college)
  - college signature pages are not permitted, 6
  - do not reference on title page, 9
  - home college submission dates, 23
- colon (proper use), 5
- copyright, copyrighted material
  - acknowledging use of material, 22
  - automatic copyright, 21
  - copyright fee, 21
  - copyright v. blank page, 11
  - fair use, 7, 22, 25
  - notification page, 11, 21
    - components of notification, 21
  - permission letters, 7
  - registering copyright, 21
    - copyright without registration, 21
- dates
  - conferral of degree date, 11, 12
  - home college submission dates, 23
  - how to report dates in your document, 5
  - prior to submitting your document, 23
  - submission deadlines
    - Graduate College, 23
    - home college submission dates, 23
- electronic submissions, 2, 24, 25
- ellipses (proper use), 6
- figure
  - caption, 14
    - may be single-spaced, 3, 7
    - must appear below figure, 7, 14
  - illustrative requirements, 7
  - larger than  $8\frac{1}{2}'' \times 11''$  paper size, 7
  - List of Figures, 14
  - located within the text (preferred), 7
  - numbering figures, 7, 15
- flush-right text formatting, 3
- font (see text font and/or text size), 3
- footnotes
  - must appear at bottom of page, 6
  - numbered consecutively in text, 6
  - numbering for a table or figure, 6
  - single-spaced, 3
- formatting
  - appealing formatting requirements, 1
  - chapter page format, 17
  - exceptions to this Handbook
    - applicable manuscripts, 8
    - discipline-specific style guides, 8
  - formatting text
    - flush-right text, 3
    - ragged-right text, 3
- forms
  - Graduate College, 2
  - Intellectual Protection & Patent, 23
  - Proquest/UMI, 2
- Garamond text font, 3
- Graduate College
  - contact information, 1
  - forms, 2
  - requiring formatting changes, 3, 9, 22, 23
  - reviewing submitted document, 23
  - signature requirements, 6
  - UT L<sup>A</sup>T<sub>E</sub>X Style File (*U<sub>T</sub>hesis*), 7
- Graduate Council, 1, 3, 19, 25
- graphs (see figures), 7
- Helvetica text font (not permitted), 3
- hyphenated words, 3
- illustrations too large for page size, 7, 22
- LaTeX, 2, 3, 7
- left margin, 3

- major sections
  - defined, 4
  - order of major sections, 9
  - top margin, 4
- maps, 7
- margins, 3, 22
- Master's Project, 1
- Microsoft *Word*, 2, 3, 7
  
- numbering
  - appendices, 18
  - chapters, 17
  - charts, 7
  - figure, 7, 15
  - graphs, 7
  - maps, 7
  - photographs, 7
  - reference section not numbered, 18
  - section, 17
  - subsection, 17
  - table, 7, 14
- numbers
  - how numbers appear in your document, 6
  
- page number
  - abstract page, 12
  - acknowledgments page, 13
  - appendix, 5, 18
  - Arabic v. Roman numerals, 4, 5, 9, 17
  - chapter pages, 5, 17
  - copyright page, 11
  - dedication page, 13
  - first page of a major section, 5, 13–19
  - font, 4
  - font size, 4
  - formatting, 4
  - index, 5, 19
  - List of Abbreviations, 15
  - List of Figures, 14
  - List of Symbols, 16
  - List of Tables, 13
  - location, 4
  - Preface, 16
  - preliminary pages, 4, 17
    - lower-case roman numerals, 4
    - number not printed on page, 9, 11, 13
  - references, 5, 18
  - table of contents, 13
  - title page, 9
- pagination (see page number), 4
- paper
  - illustrations too large for page size, 7, 22
  - paper requirements, 22
  
- photographs, 7
  - must be professional-quality, 7
  - page number, 5
  - too large for page size, 7, 22
- preliminary pages
  - list of preliminary pages, 4
  - page number, 4
    - lower-case roman numerals, 4
    - number not printed on page, 9, 11, 13
  - preliminary pages v. document text, 17
  - required sequence of preliminary pages, 9
  - required v. optional pages, 9, 14–16
- Proquest/UMI, 6, 21, 22, 25
  - administrative signatures not permitted, 20
  - college-specific pages are not permitted, 6
  - forms, 2
  - word limit for your Abstract, 12
  
- quotations
  - long quotations may be single-spaced, 3
  - use of ellipses in quotations, 6
  
- ragged-right text formatting, 3
- reporting dates, 5
- reporting numbers, 6
- right margin, 3
- Roman text font (recommended), 3
  
- san serif fonts not permitted, 3
- script-style fonts not permitted, 3
- section
  - headings, 17
  - numbers, 17
  - symbols not permitted in heading, 17
- seminar papers, 1
- signatures
  - administrative signatures not permitted, 9, 20
  - appearing only on title page, 19, 23
  - college signature pages are not permitted, 6
  - committee chair, 20
  - committee members, 20
  - consistent presentation, 11, 20
  - Graduate College Dean, 20
  - Graduate Council requirements, 19
  - required v. optional, 11, 19, 20, 23
  - signature lines, 11, 20
  - what signatures certify, 19
- single-spaced material
  - abstract page (“part one”), 12
  - captions to figures and tables, 3
  - content of tables and text within figures, 3
  - copyright notification page, 11
  - footnotes, 3
  - (single-spaced material is continued on next page)*

- single-spaced material (continued)
  - List of Abbreviations, 15
  - List of Symbols, 16
  - long quotations, 3
  - option for references, 3, 18
  - title page special situation, 10, 11
- style manuals
  - exceptions to Handbook regulations, 8
  - general formatting, 1
- submission issues
  - deadlines
    - Graduate College, 23
    - home college submission dates, 23
  - forms
    - Graduate College, 2
    - Intellectual Protection & Patent, 23
    - Proquest/UMI, 2
  - Graduate College review, 23
  - how to submit your document, 23
  - number of copies to submit, 24
  - prior to submitting your document, 23
  - title page
    - additional signed & unsigned copies, 23
    - signatures, 23
- symbols
  - avoid symbols in document title, 10
  - general rules, 5
  - List of Symbols, 15
  - on charts, figures, etc., 7
  - symbols not permitted in headings, 17
- table
  - caption, 14
    - may be single-spaced, 3, 7
    - must appear above table, 7, 14
  - illustrative requirements, 7
  - larger than  $8\frac{1}{2}'' \times 11''$  paper size, 7
  - List of Tables, 13
  - located within the text (preferred), 7
  - numbering tables, 7, 14
- text
  - divisions of textual material, 17
  - formatting text
    - flush-right, 3
    - ragged-right, 3
  - text font, 3
    - acceptable fonts, 3
    - copyright notification page, 11
    - must choose a single font, 3
    - only serif fonts are permitted, 3
    - san serif fonts not permitted, 3
    - script-style fonts not permitted, 3
  - text size for all textual material, 3
- text formatting
  - flush-right text, 3
  - ragged-right text, 3
- Times Roman text font (recommended), 3
- title page
  - additional signed & unsigned copies, 23
  - no “all caps” in document title, 10
  - page number are not printed on page, 9
  - referencing home college is not permitted, 9
  - signature lines
    - committee chair, 20
    - committee members, 20
    - Graduate College Dean, 20
    - required v. optional, 11, 19, 20
  - signatures
    - administrative signatures not permitted, 20
    - appearing only on title page, 23
    - before document submission, 23
    - committee chair, 19
    - committee members, 20
    - consistent presentation, 11, 20
    - Graduate College Dean, 19
    - required v. optional, 11, 19, 23
    - what signatures certify, 19
- top margin, 3, 4
  - first page of a major section, 4, 5, 13–19
- University of Toledo Archives, 2, 6, 24
- UT  $\LaTeX$  Style File (*Uthesis*), 7
- word
  - definition of “a word” for an Abstract, 12
  - Microsoft *Word*, 2, 3, 7
  - word limit for your Abstract, 12